

Release notes for ENDF/B Development photoat-068_Er_000
evaluation

ENDF
B-VII.dev

October 13, 2016

- checkr Warnings:

1. A previous error halted parsing of the current section
MAT=6800, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=6800, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      163 TO      195
```

- checkr Errors:

1. A variable is outside the allowed ENDF range
MAT=6800, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=6800, MF= 1, MT=451
MOD =      3 OUT OF RANGE      0 -      1      RECORD NUMBER      163
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=501
SECTION 23/501 NOT IN DIRECTORY      RECORD NUMBER      197
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=502
SECTION 23/502 NOT IN DIRECTORY      RECORD NUMBER      1076
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=504
SECTION 23/504 NOT IN DIRECTORY      RECORD NUMBER      1497
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=515
SECTION 23/515 NOT IN DIRECTORY      RECORD NUMBER      1538
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=6800, MF=23, MT=516
SECTION 23/516 NOT IN DIRECTORY      RECORD NUMBER      1572
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=517 (0): Directory (b)

ERROR(S) FOUND IN MAT=6800, MF=23, MT=517
SECTION 23/517 NOT IN DIRECTORY RECORD NUMBER 1626

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=522 (0): Directory (b)

ERROR(S) FOUND IN MAT=6800, MF=23, MT=522
SECTION 23/522 NOT IN DIRECTORY RECORD NUMBER 1667

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=534 (0): Directory (b)

ERROR(S) FOUND IN MAT=6800, MF=23, MT=534
SECTION 23/534 NOT IN DIRECTORY RECORD NUMBER 2056

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=535 (0): Directory (b)

ERROR(S) FOUND IN MAT=6800, MF=23, MT=535
SECTION 23/535 NOT IN DIRECTORY RECORD NUMBER 2077

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=536 (0): Directory (b)

ERROR(S) FOUND IN MAT=6800, MF=23, MT=536
SECTION 23/536 NOT IN DIRECTORY RECORD NUMBER 2101

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=537 (0): Directory (b)

ERROR(S) FOUND IN MAT=6800, MF=23, MT=537
SECTION 23/537 NOT IN DIRECTORY RECORD NUMBER 2125

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=538 (0): Directory (b)

ERROR(S) FOUND IN MAT=6800, MF=23, MT=538
SECTION 23/538 NOT IN DIRECTORY RECORD NUMBER 2149

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=539 (0): Directory (b)

ERROR(S) FOUND IN MAT=6800, MF=23, MT=539
SECTION 23/539 NOT IN DIRECTORY RECORD NUMBER 2176

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=540 (0): Directory (b)

- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=6800, MF=23, MT=540 | RECORD NUMBER | 2205 |
| SECTION 23/540 NOT IN DIRECTORY | | |
16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=541 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=6800, MF=23, MT=541 | RECORD NUMBER | 2235 |
| SECTION 23/541 NOT IN DIRECTORY | | |
17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=542 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=6800, MF=23, MT=542 | RECORD NUMBER | 2269 |
| SECTION 23/542 NOT IN DIRECTORY | | |
18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=543 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=6800, MF=23, MT=543 | RECORD NUMBER | 2300 |
| SECTION 23/543 NOT IN DIRECTORY | | |
19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=544 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=6800, MF=23, MT=544 | RECORD NUMBER | 2330 |
| SECTION 23/544 NOT IN DIRECTORY | | |
20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=545 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=6800, MF=23, MT=545 | RECORD NUMBER | 2365 |
| SECTION 23/545 NOT IN DIRECTORY | | |
21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=546 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=6800, MF=23, MT=546 | RECORD NUMBER | 2400 |
| SECTION 23/546 NOT IN DIRECTORY | | |
22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=547 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=6800, MF=23, MT=547 | RECORD NUMBER | 2456 |
| SECTION 23/547 NOT IN DIRECTORY | | |
23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=548 (0): Directory (b)

- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=6800, MF=23, MT=548 | |
| | SECTION 23/548 NOT IN DIRECTORY | RECORD NUMBER 2513 |
24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=549 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=6800, MF=23, MT=549 | |
| | SECTION 23/549 NOT IN DIRECTORY | RECORD NUMBER 2571 |
25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=550 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=6800, MF=23, MT=550 | |
| | SECTION 23/550 NOT IN DIRECTORY | RECORD NUMBER 2629 |
26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=551 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=6800, MF=23, MT=551 | |
| | SECTION 23/551 NOT IN DIRECTORY | RECORD NUMBER 2668 |
27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=552 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=6800, MF=23, MT=552 | |
| | SECTION 23/552 NOT IN DIRECTORY | RECORD NUMBER 2712 |
28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=23, MT=559 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=6800, MF=23, MT=559 | |
| | SECTION 23/559 NOT IN DIRECTORY | RECORD NUMBER 2758 |
29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=27, MT=502 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=6800, MF=27, MT=502 | |
| | SECTION 27/502 NOT IN DIRECTORY | RECORD NUMBER 2804 |
30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=27, MT=504 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=6800, MF=27, MT=504 | |
| | SECTION 27/504 NOT IN DIRECTORY | RECORD NUMBER 2856 |
31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=27, MT=505 (0): Directory (b)

ERROR(S) FOUND IN MAT=6800, MF=27, MT=505
SECTION 27/505 NOT IN DIRECTORY

RECORD NUMBER 2909

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=6800, MF=27, MT=506 (0): Directory (b)

ERROR(S) FOUND IN MAT=6800, MF=27, MT=506
SECTION 27/506 NOT IN DIRECTORY

RECORD NUMBER 3093

- fudge-4.0 Warnings:

1. generic warning message
reaction label 0: Er + gamma [coherent] / Product: gamma (Error # 0): Warning

WARNING: coherentScattering is not a valid distribution component for 2-body reaction

2. FIXME: Generic fudge unimplemented message
reaction label 0: Er + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

WARNING: Checking not yet implemented for pointwise type data

3. generic warning message
reaction label 1: Er + gamma [incoherent] / Product: gamma (Error # 0): Warning

WARNING: incoherentScattering is not a valid distribution component for 2-body reaction

4. FIXME: Generic fudge unimplemented message
reaction label 1: Er + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

WARNING: Checking not yet implemented for piecewise type data

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent)
sumrule
summedReaction label 24: total (Error # 0): Sumrule

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent)
sumrule
summedReaction label 26: photoelectric absorption (Error # 0): Sumrule

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 82.62%

- fudge-4.0 Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Er + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

2. 2-body reaction not in center-of-mass frame
reaction label 0: Er + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

WARNING: 2-body reaction not in center-of-mass frame!
3. Calculated and tabulated thresholds don't agree
reaction label 1: Er + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
4. 2-body reaction not in center-of-mass frame
reaction label 1: Er + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

WARNING: 2-body reaction not in center-of-mass frame!
5. Energy range of data set does not match cross section range
reaction label 1: Er + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)
6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Er [electron field] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Er [nuclear field] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Er1s1/2 / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 57574. eV!
9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Er2s1/2 / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9716.200000000001 eV!
10. Calculated and tabulated thresholds don't agree
reaction label 6: e- + Er2p1/2 / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9274.799999999999 eV!
11. Calculated and tabulated thresholds don't agree
reaction label 7: e- + Er2p3/2 / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8347.4 eV!

12. Calculated and tabulated thresholds don't agree
reaction label 8: $e^- + Er3s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2188.9 eV!
13. Calculated and tabulated thresholds don't agree
reaction label 9: $e^- + Er3p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1991.8 eV!
14. Calculated and tabulated thresholds don't agree
reaction label 10: $e^- + Er3p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1796.2 eV!
15. Calculated and tabulated thresholds don't agree
reaction label 11: $e^- + Er3d3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1455. eV!
16. Calculated and tabulated thresholds don't agree
reaction label 12: $e^- + Er3d5/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1412. eV!
17. Calculated and tabulated thresholds don't agree
reaction label 13: $e^- + Er4s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 436.85 eV!
18. Calculated and tabulated thresholds don't agree
reaction label 14: $e^- + Er4p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 357.04 eV!
19. Calculated and tabulated thresholds don't agree
reaction label 15: $e^- + Er4p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 312.97 eV!
20. Calculated and tabulated thresholds don't agree
reaction label 16: $e^- + Er4d3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 180.25 eV!
21. Calculated and tabulated thresholds don't agree
reaction label 17: $e^- + Er4d5/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 172.26 eV!
22. Calculated and tabulated thresholds don't agree
reaction label 18: $e^- + Er4f5/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10.94 eV!

23. Calculated and tabulated thresholds don't agree
reaction label 19: $e^- + Er4f7/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 9.76 eV!
24. Calculated and tabulated thresholds don't agree
reaction label 20: $e^- + Er5s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 56.73 eV!
25. Calculated and tabulated thresholds don't agree
reaction label 21: $e^- + Er5p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 34.73 eV!
26. Calculated and tabulated thresholds don't agree
reaction label 22: $e^- + Er5p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 29.06 eV!
27. Calculated and tabulated thresholds don't agree
reaction label 23: $e^- + Er6s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.48 eV!
28. Calculated and tabulated thresholds don't agree
summedReaction label 24: total / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
29. Calculated and tabulated thresholds don't agree
summedReaction label 25: pair product / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
30. Calculated and tabulated thresholds don't agree
summedReaction label 26: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.48 eV!

- **xsectplotter** Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection
```

```
/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: RuntimeWarning:
... [3 more lines]
```